Introducing 2017 New Varieties!

Breeding and Producing Organic Seeds

- Dillon Iceberg
- Poniente Cucumber
- Bright Summer Squash
- Brentwood Eazyleaf
- Leonida Endive
- Francesca Onion
- Pfeifer Greenleaf
- Genesi Fennel
- Eztron Eazyleaf
- Scarface Rootstock
- Benefine Endive
- Maxeza Tomato
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Organic Certification

All of our seed, seed processing and seed treatments are 100% certified organic complying to national and international standards. Vitalis Organic Seeds organic certification certificates and non-GMO statement can be found on the About Vitalis page of our website www.vitalisorganic.com.

USDA NOP
We are certified as a handler for the National Organic Program (NOP) of the United States Department of Agriculture (USDA) with certifier CCOF under Client Code pr1831. We are enrolled in the CCOF Global Market Access Program in compliance with the NOP/COR (Canada Organic Regime) Equivalence Arrangement and the US/EU Equivalence Arrangement.

EKO
For the European and other select international markets our vegetable seeds are certified in compliance with EEC No 834/2007 Regulation by Skal under number 996450.

Lacon
For the European and other select international markets our herb seeds are certified in compliance with the EEC No 834/2007 Regulation by Lacon under certificate number DE-RP-003-00029-BCD#2016#55761-EN.
Lettuce

Iceberg
Dillon, new!
Iceberg with excellent uniformity and small head size. Nice internal fill and conformation. Base shape is good with small ribs. Exterior frame and wrap leaves stand out for their darker color. Excellent resistance and field tolerance for downy mildew. The head size and weight increases in hot weather, and performs best in late Summer on the coast or in warmer climates with more sun.


Green Butterhead
Anandra
Anandra is a voluminous green butterhead for the spring, summer and fall. With a large frame and a shiny, medium green color, Anandra produces heavy heads under a variety of conditions. Anandra is fast to make a large frame but slow to fill, allowing for a flexible harvest window. Strong against tipburn and bolting, it also has a closed, upright base and excellent disease resistance for organic conditions. Recommended for both fresh market and processing.


Barilla
Barilla is a medium green, thick-leaved variety with a strong base and good volume. It is strong against internal tipburn and appropriate for late spring and early autumn crops. Strong mildew and aphid resistance.


Mirlo
A voluminous bright green butterhead variety with glossy leaves, a well filled heart, flat bottom, not too dense, and easy to peel. Very strong on internal tipburn, this variety has broad adaptability with excellent performance throughout the season.


Red Butterhead
Alkindus
Alkindus is an improved Roxy type with slightly savoyed leaves and excellent mildew and aphid resistance. It is mid-sized, has a beautiful dark red color and is suitable for full season production. Excellent fill and good field holding capacity.


Roxy
An outstanding red butterhead variety due to its brilliant leaf color and field performance. Roxy has an open, loose head with delicate leaves that are slightly blistered. Nice base, slow bolting and strong against tipburn.

Resistances: HR: Bl:16,21,23,32/CA1-6/TBSV.
Greenleaf
Bergam's Green
A greenleaf in the North Star class, however, with a larger frame, darker green, and Corky Root resistance. Slow to bolt, strong against tipburn, resistant to heading, and best suited for summer and fall harvests.

Resistances: HR: TBSV. | IR: Ss.

Muir
Muir is a medium-sized, light green, open, and slow-growing greenleaf variety. The heads grow very upright and the hearts are well filled. Muir has a sweet flavor and is strong against bolting and internal tipburn. With excellent downy mildew and aphid resistance, this variety is appropriate for field and unheated greenhouse production.


Stacker
Stacker is our greenleaf with a unique upright habit and narrow leaf blade attachment. Dark green leaves have a smooth, slightly undulating margin and are uniform in shape and size. With its high leaf count, Stacker will work for the whole leaf market, as well as for heads - its upright base facilitates packing into boxes or sleeves with minimal breakage. This variety has high mildew resistance and performs best in the summer and fall slots.


Tropicana
Proven to be the best heat and bolt tolerant greenleaf variety in its class in trials across the country. Tropicana is tolerant to tipburn, 'leaf scorch', and is Corky Root resistant. Excellent uniformity and leaf texture. Tropicana can be used in fresh packs or for whole leaf production.

Resistances: IR: Ss.

Pfeifer  new!
Large frame green leaf variety with vibrant medium green color. Consistent throughout the growing season with a uniform size and shape. Good leaf texture with a ruffled margin and savoy leaf. Weight on this variety exceeds expectations.


Redleaf
Red Mist
Red Mist is a redleaf lettuce with a long planting window. Its upright, V-shape helps prevent basal rot and packs well. Excellent weight for a redleaf with cores that stay low, Red Mist is slower to bolt than other redleaf varieties in its class and provides a long planting window. This variety is a highly presentable lettuce with nice color contrast between red and green.

Green Romaine

Arroyo
Arroyo is an excellent variety that is well suited for both hearts and whole head production. Fresh market and industry growers will appreciate Arroyo's tall, upright habit, attractive color, and high tolerance to downy mildew. Tight internodes and a V-shaped base produces high quality hearts. Arroyo is best planted in the spring and fall slots - in cooler areas it can also be planted in the summer.


Clouny new!
Medium-green full romaine with semi-smooth, glossy leaf texture that is thick, but pliable. Medium-sized frame with a narrow, rounded V-shaped base. Best used as a heart or carton type in California and a carton type in Arizona. Slot in spring or fall for best performance.


Coastal Star
A dark green, tall romaine for spring and fall harvest that is similar to Darkland Cos, but taller and darker. Coastal Star is early maturing and produces large, heavy heads that can be used for hearts or fresh pack.

Resistances: IR: Ss.

Holon
A blonde romaine with a very high leaf count that has a tapered base, smooth ribs, and unique blanched hearts. Holon has good flavor, strong shelf life, and is best for spring and early summer production. Strong downy mildew and aphid resistance.


Mezquite new!
A semi-savoy full sized romaine with a thick texture. Works well for the heart market, but the nice internal blanching provides an attractive product for the value-added segment. The base is tapered with straight ribs, which makes for easier harvesting and packing. Performs best mid-January through February in the desert region.


Romaine Size Classifications

<table>
<thead>
<tr>
<th>Lettuce Type</th>
<th>Heart Length</th>
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</thead>
<tbody>
<tr>
<td><strong>Full</strong></td>
<td>12 in. / 30 cm.</td>
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<tr>
<td><strong>Midi</strong></td>
<td>10 in. / 24 cm.</td>
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<tr>
<td><strong>Mini</strong></td>
<td>7 in. / 16 cm.</td>
</tr>
<tr>
<td><strong>Little Gem</strong></td>
<td>4.5 in. / 11 cm.</td>
</tr>
</tbody>
</table>
Lettuce

Rainier
Rainier is a large, heavy, medium green romaine for carton, hearts, and processing. It has improved downy mildew resistance, as well as Tomato Bushy Stunt Virus (TBSV) and red aphid resistance. Recommended for spring and fall production.


Tuolumne new!
Extra-large romaine with a very substantial frame. Smooth leaved, medium green plant with a high yield. This variety has an open habit that produces optimum weight. The base forms a wide V-shape with narrow ribs. A broadly adaptable, consistent performing variety for both whole head and processing markets.


Green Mini Romaine
Starhawk
A mini-romaine with dark green, shiny color and a dense, well-filled heart that is strong against internal tipburn. Starhawk has an open upright habit, and is good for loose leaf and full head market. Strong downy mildew and aphid resistance and broad seasonal adaptability.


Red Mini Romaine
Breen
Breen is a unique red mini-romaine lettuce. It closes nicely in the top, resulting in a perfectly formed heart. This great-tasting variety, which resembles a Treviso radicchio in appearance, has white veins that contrast sharply with its red leaves and has excellent shelf life.


Pomegranate Crunch
This variety is a red mini-romaine with an open habit and smooth texture. Faster growing than other red romaine varieties, with a brighter poppy red color on the outside and a sparkled red-green inside. Pomegranate Crunch is a nice red partner for a twin pack with green mini-romaine Starhawk.

Resistances: HR: Bl:16-27,29,32/CA1-8/TBSV.
Lettuce

Green Little Gem

Dragoon
Dragoon is a well-filling little gem that is slightly larger than Spretnak. This dark green compact variety matures slowly and keeps a short core. It is strong against bolting, internal tipburn, and downy mildew, and is appropriate for open field or unheated greenhouse production.


Newham
Newham is a green little gem with red aphid resistance in the Spretnak class. Excellent fill, strong tipburn resistance, and a very sweet flavor make this variety a standout. Suitable for year-round production in coastal regions, and winter, spring, and fall production in hot summer growing areas.

**Resistances:** HR: Bl:16-21,23-26,28-32/CA1-8/Nr:0/Pb. | IR: LMV:1/Ss.

Spretnak
A beautiful and tasty little gem lettuce with short, well closing heads, smooth outer leaves, and tightly packed, blanched hearts. Best for spring and fall cultivation. Spretnak is a lovely green little gem partner to the red little gem Rhazes.


Red Little Gem

Rhazes
Rhazes produces a unique, merlot-colored mini little gem that grows slowly and has nice texture. A strong tolerance to Sclerotinia.

**Resistances:** HR: Bl:17.

Truchas
A mini-romaine/little gem type that has a stunning contrast between green hearts and dark cherry red leaves. The upright cylindrical shape, good uniformity, and ease of cleaning make this an excellent addition to the Vitalis assortment. The beautiful size and color contrast of Truchas pairs well with the green little gem Dragoon.


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**HR:** High resistance  
**IR:** Intermediate resistance  
For explanation of codes of resistances, see page 41-42.
Lettuce

Red Oakleaf
Cantarix
Cantarix is a large size, dark red oakleaf lettuce with an attractive base. This variety produces dense heads with wide leaves, attractive color variation, and upright growth. Cantarix is best cultivated in the spring and early autumn, with strong downy mildew and aphid resistance, and excellent flavor.

Resistances: HR: Bl:16-26,28,32/CA1-8/Nr:0/TBSV.

Lolla Bionda
Ilema
Ilema is an impressively voluminous green lolla, with a strong plant and nice curliness. Ilema has a unique combination of speedy growth and good weight. Ilema holds well in the field and also has a very sweet flavor.


Lollo Rossa
Fossey
Good volume, dark red color, and frilly leaves describe the outstanding characteristics of Fossey, a variety that can be grown the whole season. It is strong against bolting and has an excellent resistance package. Fossey has an upright habit, with thin leaves at the base, making it a variety with less susceptibility to bottom rot.

Resistances: HR: Bl:16-26,28,32/CA1-8/Nr:0.

For explanation of codes of resistances, see page 41-42.
Lettuce

Green Serrated
Green Reef
This unique one-cut lettuce is in a category of its own! Green Reef will add loft and diversity to your mix. Highly serrated green leaves have a thick texture and a narrow attachment. Good for whole head or mechanical harvest and recommended for spring, summer, and fall production.

*Resistances*: HR: Bl:16-32/CA1-8/Nr:0/TBSV.

Green Tango
Ezrilla
This is a unique one-cut green tango. Ezrilla has incised, dark green outer leaves and a sweet, blanched center. We highly recommend this variety for adding texture, loft, and crunch to your mix. Strong disease resistance and slow bolting make Ezrilla an adaptable variety for many regions and seasons.


Eztron new!
Vivid green cut leaf variety with superior texture and a flavorful crunch. Good speed with improved bolting tolerance. Leaves are deeply incised with a fine super-frilly outer edge, creating a unique product with amazing volume and loft.

*Resistances*: HR: Bl:16-32/CA1-8/Nr:0/TBSV. | IR: LMV:1

Red Tango
Brentwood new!
A lobey deep red one cut leaf with a glossy soft texture and a lot of dimension. The color contrast between the dark cherry and bright light green gradation on the leaf is striking. This variety has good bolting tolerance and produces leaves with a fine ripple.


HR: High resistance | IR: Intermediate resistance
For explanation of codes of resistances, see page 41-42.
**Lettuce**

**Green Oakleaf**

Hampton

Hampton is a voluminous, high leaf count one-cut oakleaf. With dark, shiny, green leaves that have a narrow attachment, this variety is ideal for mechanical or hand harvest. Very slow to bolt, Hampton is a flexible variety for year-round production.


**Red Oakleaf**

Buckley

Buckley is a beautiful one-cut red oakleaf. Lobed, deep red leaves grow in an upright rosette, forming a highly presentable variety that can be harvested by hand for whole heads, or mechanically for a mix. Pair with Hampton Eazyleaf for a vibrant display.

*Resistances:* HR: Bl:16-32/CA1-8/Nr:0/TBSV.

**Red Mini Romaine**

Ezbruke  *new!*

Ezbruke is a stunning red mini romaine with an open habit for either one-cut or whole head harvest. Heads form many 7” leaves that are fresh green at the base and deep cherry red on top. Ezbruke can be grown year round. For whole head harvest, space plants 6” apart. For one-cut harvest, 4” spacing is recommended.


**HR:** High resistance  | **IR:** Intermediate resistance
For explanation of codes of resistances, see page 41-42.
Heated Greenhouse

Green Butterhead
Brighton
Brighton is a medium sized head lettuce with a strong bottom and well-filled, good closing heads. The variety is strong against tipburn and very strong against downy mildew. Appropriate for winter and spring production.


Espirando
Espirando is a medium to large sized butterhead with fresh green color and reliable performance in spring, summer, and fall. The variety is strong against tipburn, yellow leaf edge, downy mildew and aphid damage. Growers will appreciate the closed base that is easy to clean and allows for a beautiful presentation.

*Resistances*: HR: Bl:16-26,28-32/CA1-8/Nr:0.

Fairly
Fairly is a greenhouse butterhead variety for the long day season. It is fast growing and heads have excellent weight. It has a closed, flat base making it an easy variety to clean at harvest. This variety has a large frame, fine ribs, and a fresh medium green color.

*Resistances*: HR: Bl:16-32/CA1-8/Nr:0.

Greenleaf
Caipira
Caipira performs excellent year-round offering attractive fresh-green color as a sweet taste. This variety stays compact in the summer with good leaf size.


Mini Romaine
Xamena
Xamena is our first mini head for greenhouse production! It is fast growing, with good top closure. This variety exhibits excellent holding ability, which allows for a flexible harvest window. Slow to bolt in the heat, it produces very nice cylindrical hearts that are well blanched and fast filling. Xamena will do well planted under high density and can be used for mini heads or hearts.


HR: High resistance  |  IR: Intermediate resistance
For explanation of codes of resistances, see page 41-42.
## Babyleaf Lettuce

### Green Romaine

- **Aerostar**: A medium green romaine with good holding ability, a narrow basal leaf, and a smooth rounded top that resists folding in the field.
  

- **Pensacola** *(new!)*: A green romaine babyleaf with an enhanced deep green colored leaf. The texture is thick, but pliable with a slightly serrated margin. The leaf has an ideal shape with a narrow point of attachment.
  

### Green Oakleaf

- **Bolsachica**: Bolsachica has serrated, thick, light green, wavy leaves. Thickest textured green oakleaf on the market!
  

- **Clearwater** *(new!)*: A beautiful medium-dark green oakleaf with great texture and flavor. Each leaf is lobed with a lot of surface area to increase yield without getting too wide. The leaves have a nice three dimensional quality to increase volume. This babyleaf variety offers a strong resistance package including downy mildew, LMV and aphid resistance.
  

### Red Oakleaf

- **Blade**: A beautiful, extremely upright, uniform, cherry-colored red oakleaf with good shelf life and field-holding quality.

  *Resistances*: HR: Bl:16-32/CA1-8/Nr:0/TBSV.

### Greenleaf

- **Celinet**: A greenleaf with a narrow cutting surface, good leaf flexibility, and attractive leaf frill. Celinet grows slowly, which allows for a longer harvest window.


### Redleaf

- **Tamarindo**: A redleaf variety with improved texture and yield over Refugio. Tamarindo has a dark red leaf color and an erect habit for ease of harvest.


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*All Vitalis lettuce varieties are protected under US law.*

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**HR**: High resistance  |  **IR**: Intermediate resistance  
For explanation of codes of resistances, see page 41-42.
Wild Rocket (*Diplotaxis tenuifolia*)

**Standard**
Standard Selvatica is a very tasty wild arugula variety with appealing, finely serrated spicy leaves.

**Bellezia**
Bellezia is a beautiful variety with impressive field tolerance to downy mildew. Bellezia has an elegant look, with striking dark color and highly serrated leaves. Excellent bolting tolerance and shelf life.

*Resistances: IR: Hp.*

**Grazia**
An improved wild arugula selection that is more compact with uniform, dark green, fine leaves. Grazia is slower bolting than our Standard Rucola Selvatica and has excellent shelf-life.

**Letizia**
Letizia is an arugula variety with impressive field tolerance to downy mildew. Letizia has an exceptionally thick texture, with smooth, lobed leaves. Medium green color, with good bolting tolerance and excellent shelf life.

*Resistances: IR: Hp.*

**Tricia**
Tricia is a faster growing wild arugula type with medium green, upright leaves and medium fine serration. Strong against downy mildew and slow to bolt, and therefore suited for production all year.
**Endive**

**Curled**

**Dubuisson**

Ideal curly leaf, medium green endive variety that produces a medium leaf cut for summer and fall production periods. Dubuisson has a high tolerance to bolting and necrosis.

**Maratoneta new!**

An improved curly leaf endive variety with dark green leaves and a bright yellow heart. Plant habit is upright for ease of harvest and reduction of basal rot. Maratoneta is medium sized and grows best in cooler conditions, but is very broadly adaptable. Suitable for both fresh market and processing markets.

**Escarole**

**Leonida new!**

Smooth leaf medium green endive with a very upright habit, large frame, and good volume of external and internal leaves. This variety has a strong tolerance to bolting and tipburn, with good field holding capacity.

**Seance**

A finely ribbed variety, Seance is voluminous with an erect habit, good heart filling and clean base. Easy to harvest and slow to bolt under hot conditions.

**Tres Fin**

**Benefine new!**

A fine-frilled TFM type with an attractive shiny dark green color. A medium-sized compact plant that is strong on bolting and produces a high yield.
Our Commitment
to an Organic Agriculture System that Starts with Organic Seed

At Vitalis, we believe that creating a robust organic agricultural system starts with organic seed. In 2016, Vitalis contributed to the development of the organic seed and agriculture sector through the following exciting initiatives:

Educational Outreach
Vitalis was again a proud sponsor of the 5th annual Student Organic Seed Symposium (SOSS) held in Waterville, Maine in 2016. SOSS is an event developed by and for graduate students involved in a broad spectrum of disciplines in organic seed systems research. We will once again be supporting the 6th symposium to be held in California in 2017 www.soseeds.org. Vitalis also presented at the Congreso de Tomate in San Luis de Potosi, Mexico encouraging growers to grow organically and participate in exciting opportunities in the tomato market.

Organic Certification
Vitalis has certified organic land at each of our three Research Station locations in California and Florida in the USA and in Culiacan, Mexico. In addition, all three locations now have a designated certified organic handler area to process organic seed according to National Organic Program (NOP) standards.

Organic Seed Advocacy
Vitalis worked with the National Organic Standards Board (NOSB) in drafting proposals for the appropriate use of new breeding techniques in organic seed, as well as strengthening the organic seed usage requirements. Vitalis is actively involved with the Organic Seed Alliance (OSA) through participation in the planning of the bi-annual Organic Seed Growers Conference and serving on the board of directors. Vitalis supports the Organic Trade Association (OTA) in an advisory capacity on organic seed regulations and breeding efforts for organic variety development. Vitalis continues to support and add our varieties to the Organic Seed Finder, a database to help farmers and certifiers find commercially available organic seed varieties. Check it out at www.organicseedfinder.org.

Philanthropic Support
Vitalis has joined other corporate and university stakeholders to support Seed Matters, an initiative of the Clif Bar Family Foundation to advocate for the improvement and protection of organic seed. The initiative focuses on the conservation of crop genetic diversity, the promotion of farmers’ roles as seed innovators and stewards, and the reinvigoration of public seed research and education. www.seedmatters.org
Organic Seed Regulations and Importation
As Mexico continued to solidify its own national organic regulation in 2016, Vitalis remained involved in the Mexico Organic Commission to support the interpretation and develop guidelines for organic seed usage. Vitalis continued to work on strategies to import a broader assortment of organic seed varieties into Mexico as a member of the American Seed Trade Association (ASTA)—Mexico Working Group, by attending Border Workshops organized by both ASTA and the Mexican Seed Trade Association (AMSAC) as well as participate in the Mexican Sanitary, Food Safety and Food Quality National Service (SENASICA) organic regulatory review committee with AMSAC.

Organic Produce Summit
Vitalis was one of eighty exhibitors at the inaugural Organic Produce Summit in 2016. We’re very excited to be a Field Tour Sponsor of the 2017 Summit and welcoming attendees to our San Juan Bautista, Ca Research Station. Participants of the field tour will see an overview of the Vitalis seed selection and breeding process for organic seeds, as well as field trials of our new varieties.

Our 2017 Conference & Trade Show Calendar

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<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Location</th>
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<tbody>
<tr>
<td>NOFA-NY Winter Conference</td>
<td>January 20-22</td>
<td>Saratoga Springs, NY</td>
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<tr>
<td>Vermont Vegetable &amp; Berry Annual Meeting</td>
<td>January 23</td>
<td>Fairlee, VT</td>
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<tr>
<td>Eco-Farm Conference</td>
<td>January 24-28</td>
<td>Pacific Grove, CA</td>
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<tr>
<td>ASTA Vegetable &amp; Flower Seed Conference</td>
<td>January 28-31</td>
<td>Orlando, FL</td>
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<tr>
<td>PASA Farming for the Future Conference</td>
<td>February 1-4</td>
<td>State College, PA</td>
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<tr>
<td>Organicology</td>
<td>February 2-4</td>
<td>Portland, OR</td>
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<tr>
<td>Organic Vegetable Producers Conference</td>
<td>February 3-4</td>
<td>Madison, WI</td>
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<tr>
<td>CCOF Annual Meeting &amp; Conference</td>
<td>February 9-10</td>
<td>Visalia, CA</td>
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<tr>
<td>New Mexico Organic Farming Conference</td>
<td>February 17-18</td>
<td>Albuquerque, NM</td>
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<td>Oregon Small Farms Conference</td>
<td>February 18</td>
<td>Corvallis, OR</td>
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<tr>
<td>MOSES Conference</td>
<td>February 23-25</td>
<td>LaCrosse, WI</td>
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<tr>
<td>Certified Organic Associations of BC</td>
<td>February 24-26</td>
<td>British Columbia, CAN</td>
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<tr>
<td>Organic Produce Summit</td>
<td>July 12-13</td>
<td>Monterey, CA</td>
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<td>Student Organic Seed Symposium</td>
<td>August 11-14</td>
<td>Davis, CA</td>
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<tr>
<td>PMA Fresh Summit</td>
<td>October 19-21</td>
<td>New Orleans, LA</td>
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<tr>
<td>Carolina Sustainable Agriculture Conference</td>
<td>November 3-5</td>
<td>Durham, NC</td>
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<tr>
<td>Washington Tilth Organic Conference</td>
<td>November 10-13</td>
<td>Wenatchee, WA</td>
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<tr>
<td>Pacific Northwest Vegetable Association</td>
<td>November 15-16</td>
<td>Kennewick, WA</td>
</tr>
</tbody>
</table>
Spinach

Acadia F1
Acadia is a dark green, semi-savoyed spinach with good texture for babyleaf harvest. This slow growing variety is recommended for main season production in coastal California, and spring and fall production in northern growing regions.


Corvair F1
Corvair produces nice oval-shaped, thick leaves that are upright in stature. It has a wide adaptability, excellent yield, and dark color. Good in spring and fall production.


Escalade F1
This flexible variety is excellent for both babyleaf and bunch harvest. Escalade performs well in spring, summer and fall production. It has thick, dark leaves and is very strong against bolting. Escalade’s field holding ability will make it a favorite when planted in the heat period.


Shelby F1
This is an excellent transition variety for spring and fall. We chose this variety because of the high quality leaf shape and size. Shelby has large, oval-shaped leaves that are medium green in color. This babyleaf spinach comes with an excellent disease resistance package and offers consistency and uniformity during those times of the season with variable temperatures.

Cauliflower

Janvel F1
Dense, well-filled curds make this an attractive variety for both fresh market and processing. Tall leaves of this vigorous plant provide excellent sunburn protection for curds. Recommended for late summer and fall harvest.

Eggplant

Traviata F1
Traviata is a strong growing, well-balanced plant that produces half-long, uniform, black, shiny fruits. A very high yielding early variety recommended for spring and summer open field and unheated greenhouse production.

Fennel

Genesi F1  new!
Genesi is an ideal fennel for late season plantings with very good cold tolerance. The dark foliage creates an umbrella shape around the bulb to help protect it. The bulb is compact, round, and white, with minimal green veins and a small cutting surface.

Idillio F1  new!
Idillio is a vigorous late season fennel with good frost tolerance. The foliage is light green and bulbs are uniform, round, smooth and shiny. Idillio stands out for its post harvest quality, especially its minimal oxidation at cut points.

Preludio F1
Preludio is a very early bulb variety with good bolting tolerance. It produces uniform rounded bulbs of standout quality and yield. Compact plants are very upright and bulbs have a narrow cutting surface for ease of harvest. An early maturing hybrid, Preludio is recommended for spring and early summer harvest but can be successfully harvested into early fall in cooler climates.
Summer Squash

Zucchini, Green
Alessandra F1
Alessandra is a green zucchini with impressive disease resistance and intermediate maturity. Dark green, cylindrical fruits are formed on a balanced, upright plant. Fruits set well under hot conditions. Alessandra is recommended for summer through fall production, especially in areas with high virus pressure.

Resistances: IR: Px/CMV/ZYMV/WMV/PRSV.

Desert F1
Desert produces very dark green uniform fruits that set well under a variety of conditions. Fruits are straight, uniform, and are slightly speckled. Open, compact plants allow for easy harvest. Desert works well under high tunnel production conditions due to early and productive flowering. Desert’s strong disease resistance package makes this an excellent addition to the Vitalis assortment.

Resistances: IR: Px/CMV/ZYMV/WMV/PRSV.

Dunja F1
Dunja has emerged as a standout squash variety for organic production. The plant is open and compact with a vigorous growth habit, easy fruit set, and high yields. Fruits are shiny, finely speckled, dark green, medium long, and of excellent quality. Dunja also has a strong disease resistance package, and is appropriate for open field or tunnel production.

Resistances: IR: Px/ZYMV/WMV/PRSV.

Green Machine F1
Consistently a top performer in Midwest and East Coast field trials, Green Machine is a steady producer of uniform, medium green fruits of exceptional quality. With high yield potential and an open, labor-friendly plant habit, Green Machine also offers strong protection against virus and powdery mildew.

Resistances: IR: Px/CMV/ZYMV/WMV.

Kopana F1
Kopana is a dark green zucchini selected for high tunnel production in the spring. Plants are vigorous, while maintaining a compact, open, well-balanced habit. Fruits are shiny, slightly speckled and have a typical tapered shape. Selected to set fruit under cool conditions, Kopana works best in the presence of some natural pollinators. With strong yields and an upright habit, this variety will produce uniform, high quality fruits for the early market.

Resistances: IR: Px/ZYMV/WMV/PRSV.

Zucchini, Yellow
Yellowfin F1
Yellowfin has a brilliant yellow color and produces high yields of straight, cylindrical fruits. Compact plants are vigorous and have an open habit for ease of harvest. This variety has the vigor and disease resistance required to withstand tough field conditions and still produce an abundant harvest. Strong resistance to powdery mildew.

Resistances: IR: Px/CMV.

Romanesco
Cassia F1
Cassia is our hybrid romanesco zucchini. Vigorous, open, upright plants are highly uniform and productive, even in low fertility environments. Cassia does well in cooler conditions, and is especially well-suited for spring production in tunnels or open field. Fruits are straight with grey-green ribbing. Attractive yellow blossoms adhere well to the fruit and make for vibrant, unique market displays.

HR: High resistance  I IR: Intermediate resistance  
For explanation of codes of resistances, see page 41-42.
Butternut

Havana F1
Havana is the largest of our butternuts. Tan fruits average 3-4 lbs. (1.3-1.8 kg.). This variety is uniform and extremely productive. Blocky fruits have a thick neck and a small seed cavity. Flesh is intense orange and tasty. The plant is vigorous and semi-vining with some tolerance to powdery mildew. Havana has good post-harvest shelf life, and ripens fairly early for its size. Because of its strong plant habit and uniform maturity, we recommend this variety for butternut growers in many locations throughout North America.

Resistances: IR: Px/ZYMV.

Tiana F1
Tiana is a blocky, slightly cylindrical, smaller butternut variety with an average fruit size of 2.2-2.5 lbs. (1-1.2 kg.) and fruit dimensions of 7x3 in. (18x8 cm.). The yield potential of Tiana is up to 50% higher than any open pollinated butternut. The fruit quality is very consistent and the exterior skin color is an intense dark tan color.

Resistances: IR: ZYMV.

Uchiki Kuri

Bright Summer F1 new!
In Vitalis trials throughout the USA and Canada, Bright Summer stood out as a winner across the region! Individual serving sized, the kabocha-shaped fruits average 2.0-2.2 lbs. (0.9-1 kg.) with beautiful cream colored stripes against a red-orange background. Plants are very prolific with intermediate resistance to the potyviruses and powdery mildew tolerance, resulting in exceptionally high yields and good storage potential.

Resistances: IR: ZYMV/WMV/PRSV.

Orange Summer F1
In trials, this first Vitalis Hokkaido hybrid has proven to produce higher yields of uniform fruits compared to any other open pollinated Uchiki Kuri. The shape of the orange fruits is round, pointed, and large at 2.6-3.5 lbs. (1.2-1.6 kg.). Orange Summer germinates easily providing for quick field emergence, and its bush type plants are strong against mildew.
**Beef**

**Arbason F1**
Arbason is a large-sized beef tomato with an average weight of 7-9 oz. (200-255 gr.). It is suitable for all types of production systems, including protected culture and open field, and is early maturing. The fruit is round in shape and has good quality with high production. The indeterminate plant grows very vigorously and is highly reliable under a wide variety of growing conditions.

*Resistances:* HR: ToMV:0-2/Va:0/Vd:0/Fol:0-1.

**Caiman F1**
This early maturing and high yielding indeterminate hybrid has a vigorous, open, compact plant with short internodes and good fruit set. The round fruits are large in size, 7.5-8.5 oz. (220-240 gr.), are very tasty, and have an attractive deep red color at maturity. Caiman is easy to cultivate, and particularly recommended for unheated greenhouse production in the spring and summer.

*Resistances:* HR: ToMV:0-2/Ff:A-E/Va:0/Vd:0/Fol:0-1. IR: TSWV/Ma/Mi/Mj.

**Skyway 687 F1**
Skyway 687 produces high quality open field tomatoes with a slightly “heirloom” appearance. Plants are well suited for organic conditions in the Southeast US because of their strong disease package, which includes virus and nematode resistance. With a vigorous, semi-determinate habit, this variety is widely adaptable throughout the whole season. Plants will benefit from pruning of ground shoots at the start of the crop. Fruits are large, 12 oz. (355 gr.), and can be ripened on the vine.

*Resistances:* HR: ToANV/Va:0/Vd:0/Fol:0-2. IR: TSWV/TYLCV/Ma/Mi/Mj.

**Cherry**

**Sakura F1**
Sakura is standout cherry tomato, producing beautiful mid-sized round fruits of 0.5-0.8 oz. (15-20 gr.) with great flavor. The fruits are tolerant to cracking, with well-attached sepals and magnificent trusses of 20 fruits or more. Well adapted to open field and unheated greenhouse production.

*Resistances:* HR: ToMV:0-2/Ff:A-E/Fol:0-1. IR: Ma/Mi/Mj. Si.

**Toronjina F1**
Toronjina is a highly attractive orange cherry tomato with vibrant color and good tolerance to cracking. Adaptable to open field and unheated greenhouse production, this orange cherry is an excellent combination in a mix with our red cherry tomatoes. Produces high yields of 0.6-0.8 oz. (18-22 gr.) tomatoes.


**Grape**

**Montesino F1**
A ‘Santa’ type grape tomato for production in open field and unheated greenhouses. Sweet, tasty fruits have an early to medium maturity window. The strong plant habit sets fruits easily and produces high yields of mini-plum shaped fruits that weigh approximately 0.3-0.5 oz. (10-14 gr.).

*Resistances:* HR: ToMV:0-2/Fol:0.

**Matthew F1**
Matthew is an interesting novelty that combines a vigorous plant habit with attractive orange grape tomatoes with good flavor. Matthew plants are vigorous, early maturing, and well balanced. On average, fruits are 1.2 oz. (35 gr.) and can be grown in open field and unheated greenhouse systems year round.

Tomato

Plum
PaiPai F1
PaiPai is an indeterminate plum tomato that can be used for both spring and summer growing seasons and produces extra large fruits averaging 6.35 oz. (180 gr.). PaiPai ripens nicely with 6-8 fruits per cluster and is not susceptible to grey wall. The plant is notably strong and compact, and pruning is recommended to ensure proper aeration of the vigorous vines. With short internodes that allow for high per plant yields, firm fruits, and extended shelf life, this is sure to be a profitable variety for both growers and shippers.

Resistances: HR: ToMV:0-2/Va:0/Vd:0/Fol:0-1. | IR: TSWV/Ma/Mi/Mj.

Granadero F1
An indeterminate plum tomato variety with a compact vigorous plant for the open field or unheated greenhouse production. Delivers high yields of large fruits, with average weight of 5 oz. (150 gr.), and demonstrates tolerance to cooler conditions. Medium maturity.

Resistances: HR: ToMV:0-2/Lt/Va:0/Vd:0/Fol:0-1. | IR: TSWV/Ma/Mi/Mj.

San Marzano
Pozzano F1
A traditional looking ‘San Marzano’ tomato that produces a bountiful yield of smooth shaped, uniform fruits of 5 oz. (150 gr.). Fruits are really full, without green shoulders, and have good tolerance to blossom end rot. The firm fruits have an excellent shelf life.

Resistances: HR: ToMV:0-2/Va:0/Vd:0/Fol:0-1.

Pink
Dimerosa F1
Dimerosa is an indeterminate pink beef tomato suitable for heated greenhouse and high tunnel production with excellent flavor. Fruits are large, flat-round and medium firm with a dark pink color and subtle ribbing. Fruits are strong against cracking and weigh an average of 6.4-7.8 oz. (180-220 gr.). Plants are relatively short with early maturity. Dimerosa produces high yields and has a strong disease package making it adaptable across broad production areas.

Resistances: HR: ToMV:0-2/ToANV/Ff:A-E/Ss/Aai/Va:0/Vd:0/Fol:0-1. | IR: TSWV/TYL"
Large Beef
Frederik F1
Frederik is for heated greenhouse production and performs well in all conditions, including under periods of low light. This indeterminate, short jointed plant has excellent endurance and strong vigor for long cycles. Pruned trusses of four will produce large, firm, flat-round tomatoes averaging 7.4-8.7 oz. (210-247 gr.). Frederik’s high quality fruits also have excellent shelf life.


Stenza F1 new!
Stenza is an exciting beefsteak for heated greenhouse production that produces consistently uniform fruit averaging 9.9-10.6 oz. (280-300 gr.). The indeterminate habit has good leaf coverage and strong productivity throughout the growing season, especially during the hottest periods, with minimal flower abortion. The flavor is a nice balance of acid and sweetness, with excellent shelf life.

*Resistances:* HR: ToMV:0-2/ToANV/Ff:A-E/Fol:0-1/For.

Tomato on the Vine (TOV)
Maxeza F1 new!
Maxeza is a unique truss tomato that combines high yield potential with good fruit color and firmness for heated greenhouse production. The plant is very vigorous and will maintain uniform fruit sizes of 4.9-5.3 oz. (140-150 gr.), even during the heat of the summer. Maxeza is the perfect variety for growers who are aiming for early and sustained production.


Cocktail
Annamay F1
Annamay is a slightly smaller cocktail tomato with an average weight of 1.2-1.4 oz. (35-40 gr.), an extremely attractive fruit, and very sweet and aromatic flavor. The trusses are well shaped, compact and very uniform. The plant habit is strong and performs best in heated greenhouse production.


HR: High resistance | IR: Intermediate resistance | Si: Silvering (Chimera)
For explanation of codes of resistances, see page 41-42.
Cherry
Tomagino F1
Tomagino is a cherry tomato intended for heated greenhouse production. This variety stands out as being extremely strong against splitting while having a sweet flavor. Well balanced plants set fruit nicely and are fast to mature, making it suitable for year round production. Expect 0.6-0.7 oz. (17-20 gr.) fruits, with superior color and shine, on highly uniform vines. This variety also works well for TOV (tomatoes on the vine) production.

Resistances: HR: ToMV:0-2/Va:0/Vd:0/Fol:0/For. | IR: On.

Mini Plum
Ardiles F1
Ardiles produces very uniform, large trusses of mini plum tomatoes. Fruits are shiny and firm, offering excellent quality and taste. On average, fruits weigh 1.2-1.4 oz. (35-40 gr.). Plants have a versatile, easily balanced plant type. Ardiles has strong tolerance to blossom end rot, russetting, and goldspeck, as well as a good level of powdery mildew resistance. This high quality mini-plum is widely appreciated for its flavor and beautiful presentation.

Resistances: HR: ToMV:0-2/Ff:A-E/Va:0/Vd:0/Fol:0-1/For. | IR: On/Ma/Mi/Mj. | Si.

Grape
Garincha F1
Garincha is a beautiful, oval shaped grape tomato for heated greenhouse production. It has a vigorous, easily balanced plant type. Uniform fruits are 0.4 oz. (12-13 gr.) in size with an attractive, shiny red color. The production capacity of Garincha is extraordinary. Trusses set well as the plant grows, staying in balance through a long cropping cycle. Garincha is very suitable for loose harvest, but also can be harvested on the truss when required.

Resistances: HR: ToMV:0-2/Fol:0-1. | IR: TSWV/Ma/Mj/Mj.
Vitalis Organic Seeds is proud to announce our collaboration with Wholesum Harvest on the launch of ‘Vitalis Born, Wholesum Raised’ - a demonstration of commitment to organic integrity through the promotion and use of organic seed in the production of certified organic produce for retail markets.
**Cucurbit Rootstock**

*Flexifort F1*

Use of Flexifort rootstock is recommended for cucumber, melon, and watermelon growers seeking a longer, healthier crop. This rootstock brings increased vigor and a high return of first quality fruits. Flexifort is an interspecific *Cucurbita maxima* x *Cucurbita moschata* cross that combines nicely with a wide number of varieties. It provides resistance to several soil borne diseases, as well as abiotic stresses such as drought, temperature extremes, and high salinity.


**Pepper Rootstock**

*Scarface F1*  new!

For growers struggling with nematode pressure in their tunnel or greenhouse, Scarface pepper rootstock is the solution! Scarface performs best when grafted to generative scions, and will increase yields by extending the production season longer than is possible with ungrafted plants. Scarface can be used in both heated and unheated greenhouse conditions.

*Resistances:* HR: Tm:0. | IR: Ma/Mi/Mj.

**Tomato Rootstock**

*Estamino F1*

Strong, vigorous rootstock with a positive generative effect on the growth of the scion grafted onto it. An Estamino graft results in a well-balanced plant with good generative growth, steady production, and uniform fruit size throughout the cultivation cycle. Estamino is definitely a rootstock for growers that have issues with controlling excessive vegetative growth in their crops.

*Resistances:* HR: ToMV:0-2/Ff:A-E/Pl/Va:0/Vd:0/Fol:0-2/For. | IR: TSWV/Ma/Mi/Mj.

*Fortamino F1*

Fortamino is especially recommended for use when transplanting into hot growing conditions. The strong root system provides extra vegetative power to the scion in the early stage of growth, developing very good leaf cover and ensuring excellent recovery after stress conditions. Grafting onto Fortamino rootstock will also increase the number of flowers per truss, and increase the average fruit weight.

*Resistances:* HR: ToMV:0-2/Ff:A-E/Pl/Va:0/Vd:0/Fol:0-2/For. | IR: TSWV/Ma/Mi/Mj.
Cucumber

**American Slicer**
Alcazar F1
An American slicer type with a vigorous and productive plant habit. The fruit is dark green, 8-9 in. (20-22 cm.) in length and has excellent shelf life. It is suited to cooler temperatures and has intermediate maturity.

*Resistances:* HR: Ccu. | IR: Px/CVYV.

**Corinto F1**
A slicer variety for fall and spring production that sets well under cool conditions. This variety is very productive and produces cylindrical, dark green, shiny, smooth fruits of 8-10 in. (20-25 cm.) in length. The excellent disease resistance package makes the variety the best choice for both open field and unheated greenhouse organic production.

*Resistances:* IR: Px/CMV/CVYV.

**Paraiso F1**
Paraiso is a very flexible variety that adapts well to varying growing conditions. The plant is vigorous and produces well in cold conditions. The fruits average 8-9 in. (20-22 cm.) long, are cylindrical and shiny dark green. They have good shelf life and retain an attractive shine in storage.

*Resistances:* IR: Px/CMV/CVYV/CYSDV.

**Primavera F1**
Primavera is recommended for greenhouse cultivation in mild temperature growing regions for fall, winter, and early spring crops. Plants will quickly find the right balance of fruit and vegetative growth under these conditions. Primavera is labor-friendly with an open plant habit for ease of harvest. Fruits average 8 in. (20-22 cm), have very good shelf life and present beautifully on store shelves.

*Resistances:* HR: Ccu. | IR: CMV/CVYV/Px.

**Saber EZ F1**
Saber EZ is a strong, vigorous variety with good side shoot development and excellent recuperation after cold periods. The dark green, cylindrical fruits of this high yielding variety are spined and have an average length of 7 in. (17-20 cm.).

*Resistances:* HR: Cca/Ccu. | IR: CMV/CVYV.

HR: High resistance  | IR: Intermediate resistance
For explanation of codes of resistances, see page 41-42.
Cucumber

**Long European Type (LET)**

**Kalunga F1**
Kalunga is a strong, compact, productive plant, that grows well in many different climates and planting slots. It is an early maturing variety that produces one fruit per node of cucumbers that are dark green, slightly ribbed, and 12-13 in. (31-34 cm.) in length. Fruits have good extended shelf life and are recommended for unheated greenhouse production.

*Resistances:* HR: Cca/Ccu. | IR: Px.

**Komet F1**
Komet delivers high fruit production and is suitable for short and long cropping cycles in the spring and summer. Performing well in both soil and substrate, plants are open and well balanced with large leaves. Fruits, averaging 15 in. (38-40 cm.), are uniform, cylindrical, with a shiny, dark exterior. Adaptable to fluctuating conditions, Komet is a good choice for early heated greenhouse production and unheated greenhouse production in the main season.

*Resistances:* HR: Cca/Ccu. | IR: CMV/CVYV/Px.

**Poniente F1**  *new!*
Poniente offers a strong resistance package and produces uniform dark green fruit that are 11.8-12.6 in. (30-32 cm.) long and nicely ribbed. The plant habit is vigorous with a dependable fruit set, 1-2 fruit per node, and early maturity. Recommended for unheated and heated greenhouse production, Poniente performs best in the spring and fall in hot climates, and does well in spring, summer, and fall in cooler climates.

*Resistances:* HR: Cca/Ccu. | IR: CMV/CVYV/Px.

**Roxynante F1**
Roxynante produces fruits that are dark green, cylindrical, slightly ribbed, and grow very straight to 12.2-13.4 in. (31-34 cm.) in length. It has excellent cold tolerance, with very productive fruiting. Best grown in unheated greenhouse production for fall and winter production.

*Resistances:* HR: Cca/Ccu. | IR: CVYV.

**Tyria F1**
Tyria is a very vigorous variety, developing dark green, slightly ribbed, well-filled fruits of 13 in. (33-36 cm.) in length with a gradual production change from the main stem to the laterals. It can be grown in the open field and unheated greenhouse over a broad range of seasons.

*Resistances:* HR: Cca/Ccu. | IR: Px.

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HR: High resistance  I IR: Intermediate resistance
For explanation of codes of resistances, see page 41-42.
Mini
Katrina F1
Katrina is a robust and productive mini cucumber with an open plant habit and only a few laterals. The fruits, 3 to 4 per node, are of top quality. They are glossy, nicely ribbed, very uniform, and 6 in. (16 cm.) long. Good resistance package for unheated greenhouse production.

Resistances: HR: Ccu. | IR: CMV/CVYV/Px.

Picolino F1
Picolino is a widely adaptable mini cucumber variety that is the smallest of the Vitalis assortment. Produces high quality, dark green, shiny fruits of 4.5 in. (12 cm.) that are nicely ribbed and extremely uniform. With 3-4 fruits per node, the compact, vigorous plants are early to produce.

Resistances: HR: Cca/Ccu. | IR: Px/CMV/CVYV.

Socrates F1
Socrates produces dark green fruits of 7 in. (17-18 cm.) that are tender and sweet. Adapted to both open field and unheated greenhouse conditions, and performs best in spring and fall. Necrosis free.

Resistances: HR: Ccu. | IR: Px.

Pickling
Excelsior F1
Excelsior is a pickling cucumber for both the open field and unheated greenhouse for spring and fall production. It has an open and vigorous plant habit, with fruits that are medium to dark green and 4-5 in. (10-12 cm.) in length.

Resistances: HR: Cca/Ccu. | IR: Px/CMV/CVYV.

All Vitalis cucumbers have all female flowers and are parthenocarpic (fruits can set without pollination).
Melon

Specialty Cantaloupe
Divergent
Divergent defies classification—part Cantaloupe, part Galia, all flavor! This variety is sweet, Brix 15-18°, juicy, and ripens earliest in its class. Selected as a fresh market variety, Divergent has orange flesh and a closed cavity. Medium-sized round fruits, 2.6-3 lbs. (1.2-1.4 kg.), set close to the crown for a concentrated harvest. Plants are vigorous and mature quickly, making this a variety that can be harvested in 2 to 3 passes. Succession plantings are recommended for a continuous supply throughout the season. This specialty cantaloupe is notable for its uniformity, both in maturity and fruit appearance. The exterior netting is low and fruits look similar to a Galia from the outside. Melons are ready to harvest when they have turned halfway from green to tan. Divergent is an adaptable, high yielding variety that performs well in many regions, including northern areas with shorter seasons.

**Resistances:** HR: Fom:0-2. IR: Gc:1/Px:1-2,5/Ag.

Italian Netted
Magnificenza F1
Magnificenza is an Italian Netted melon variety in the Vitalis assortment producing 3-4 lbs. (1.5 kg.) fruits that are slightly high round in shape with excellent sutures and netting. The strong plant has an easy fruit set under variable conditions and produces attractive melons with orange flesh, good flavor, and consistent Brix levels of 13-15°. Aphid resistant.

**Resistances:** HR: Fom:0-2. IR: Gc:1/Px:1-2,5/Ag.

Tirreno F1
Tirreno is a favorite among northern growers. It was selected for its excellent flavor, uniformity, and solid production under organic conditions. Tirreno produces round to slightly high round fruits with uniform sutures and thick netting. It has excellent fruit quality with good flesh structure with a slightly thick, green rind. The taste and sugar content are excellent with Brix levels of 13-15°. Exterior skin color is grey to cream with an interior orange flesh color. It produces 2.6-3 lbs. (1.2-1.4 kg.) fruits.

Sweet Pepper

Blocky Green to Red
Bunker F1
Bunker delivers shiny, dark green fruits. It is adaptable to both open field and high tunnel production with easy fruit setting under warm and cool conditions. Robust, medium sized plants of 3.5 in. (90 mm.) have excellent disease resistance. Bunker produces high yields of thick-walled fruits over a long harvest window that mature from dark green to dark red.

Resistances: HR: Xcv:1-3.5/PepMoV/PVY:0-1/Tm:0; IR: TEV.

Dashen F1
Dashen is our open field bell pepper for green harvest in the southeast. Plants have good leaf cover and will produce large to extra large dark green peppers of exceptional quality, 3.5-4 in. (90-100 mm.). Fruits set well under warm, humid conditions. Quality, dark green color, and yield make this variety a strong competitor for the green harvest bell market. Dashen is a mid-season maturity bell pepper.

Resistances: HR: Xcv:1-5/Tm:0; IR: TSWV:0.

Olympus F1
Olympus is a very large, 4 in. (100 mm.+), and slightly elongated blocky bell. It colors from green to dark red and has thick side walls. It is very productive and has a vigorous bush that provides plenty of shade for those long seasons. Recommended for open field production.


Procraft F1
A strong open field green-to-red bell pepper with beautiful dark red internal and external color at the mature stage of 3.5-4 in. (90-100 mm.). Appropriate for use for both fresh and processing markets due to its quality and firmness. This variety has an excellent resistance package, good leaf cover, and has been shown to be adaptable to both coastal and interior growing conditions in California, as well as in the northern US.

Resistances: HR: Xcv:1-3/PVY:0-1/Tm:0; IR: TSWV:0/TEV.

Sprinter F1
Sprinter produces a high yield of beautiful 3.5 in. (85 mm.) peppers for a long production period. This variety is not sensitive to blossom end rot or russetting. Sprinter is recommended for open field and unheated greenhouse production.

Resistances: HR: Tm:0-3.

Blocky Yellow
Abay F1
Abay produces large fruits of 4 in. (95 mm.) with thick walls mature from dark green to yellow. Suitable for spring and fall plantings in the open field in the southeast regions and as a late season main crop in the northeast and midwest. Excellent Bacterial Leaf Spot resistance.

Resistances: HR: Xcv:1-5/Tm:0.

Blocky Orange
Milena F1
Milena is an early maturing orange bell with 3-4 lobes. High quality fruits have a nice dark orange color and are medium size, averaging 3.5 inches (85-90 mm.). The plant has a vigorous, open habit with good yields and strong resistance to viruses. Best suited for open field and unheated tunnel production. Milena is a standout variety that delivers uniform fruits and high productivity.

Resistances: HR: PVY:0-1/Tm:0-3; IR: TSWV:0/TEV.

HR: High resistance  I IR: Intermediate resistance  
For explanation of codes of resistances, see page 41-42.
Diverse Pepper

**Capia**

**Belcanto F1**
Belcanto is an early maturing red sweet pepper. Capia peppers are native to Eastern Europe and are a staple in Turkish cuisine. This variety has thick walls and sweet flavor and can be eaten a variety of ways including fresh, grilled or dried for paprika. It produces two-lobed fruits of 1.6 x 6-6.7 in. (4 x 15-17 cm.) in size. This variety has a compact plant structure and is suitable for open field and high tunnel production.

*Resistances:* HR: Tm:0-3.

**Long Sweet Conicals**

**Oranos F1**
This outstanding orange conical pepper is a very early variety that produces vigorous plants with fruits 1.5 x 7 in. (4 x 18 cm.) in size. Oranos is especially appreciated for its flavor, uniqueness, and easy growth habit.

*Resistances:* HR: Tm:0.

**Xanthi F1**
Xanthi is an exceptionally beautiful yellow variety in our sweet conical segment. The medium maturity and vigorous plant produces attractive fruits with a size of 1.5 x 8 in. (4 x 21 cm.). Xanthi produces uniformly shaped and very tasty fruits.

*Resistances:* HR: Tm:0.

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Hot Pepper

**Ancho**

**Bastan F1**
This tasty hot pepper has good heat and matures to a beautiful chocolate color. Medium sized fruits average 2.4-2.8 x 5.5-6 in. (6-7 x 14-15 cm.), are thick walled and have a brilliant dark green color prior to ripening. The plant produces a concentrated set of consistently high quality fruits for fresh market. Thanks to excellent leaf cover and medium-early maturity, growers can expect excellent yields at time of harvest.

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HR: High resistance  I IR: Intermediate resistance  
For explanation of codes of resistances, see page 41-42.

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Healey F1
Healey produces large quantities of “XL” and “XXL” red peppers of 3.5 in. (90 mm.). Plants are sturdy with good vigor and adaptability to variable conditions. Fruits are uniform, firm, and tasty. This variety is strong against russetting and blossom end rot. Healey has early to medium maturity and high total production yields. The open, strong plant habit requires generative steering. In addition to its superior fruit quality, Healey maintains its large sizes in the second half of the cultivation cycle.

*Resistances*: HR: Tm:0-2.

**Triple 5 F1**
Triple 5 has a semi-open plant architecture and a generative habit that sets fruit easily. This high yielding variety works best when managed as a fast growing crop. High quality fruits are uniform and blocky under all circumstances during the entire life of the crop. Fruits average 3.3-3.5 in. (85-90 mm.).

*Resistances*: HR: Tm:0-3. IR: Ma/Mi/Mj.

**Viper F1**
Viper is a high quality variety with good yields that is also fairly early. Fruits are large 3.3-3.5 in. (85-90 mm.) and have a high average weight/fruit. Fruit set is regular and evenly distributed throughout the plant. Viper has an open plant type with a lot of vigor. It sets under almost all conditions and is best grown at high speed.

*Resistances*: HR: Tm:0-2.
Heated Greenhouse

Blocky Yellow
Bentley F1
Bentley is our heated greenhouse yellow blocky pepper variety with a compact and generative plant that produces a high percentage of extra large fruits of 3.5 in. (90+mm.) with four lobes. This high yielding, labor friendly variety has an open plant habit, short internodes, and a generative character. Bentley easily sets fruits and has high fruit loads. For the best results, we recommend a cultivation strategy focused on promoting growth and speed of plant development.

 Resistances: HR: Tm:0-3.

Eurix F1 new!
Our newest yellow blocky bell pepper was a standout in trials for its early maturity, consistently high yields, and ease of fruit set. Eurix has a strong root system which contributes to a uniform fruit size of 3.5-3.7 in. (90-95 mm), as well as adaptability to a range of growing conditions while maintaining a generative balance. Fruit is light green when immature, and colors to a medium yellow, with exceptional shelf-life.

 Resistances: HR: Tm:0-2.

Blocky Orange
Orbit F1 new!
Orbit, a newly introduced orange blocky bell pepper with a vigorous plant habit and high yields. Recent trials in Canada, the USA and Mexico have shown Orbit to be adaptable in early and late sowings and productive throughout the season. Fruits average 3.3-3.5 in. (85-90 mm). This exciting addition offers growers a versatile and high-quality orange pepper with impressive shelf life that will nicely round out their assortment.

 Resistances: HR: Tm:0-3.
Leek

Chinook F1
Chinook is a fast growing summer hybrid with exceptionally long, straight shanks that clean easily in the field. This variety has excellent uniformity and grows quickly even under cold conditions. Plants are medium green and upright. An excellent choice for reliable, high-quality, early season leeks.

Blauwgroene Herfst* Tadorna
This late autumn winter leek is very uniform and can fit into most leek programs, given its adaptability to several growing regions. Tadorna has long white shanks and is easy to harvest and clean.

Takrima F1
Takrima is an early-intermediate maturity leek. Long, straight, white shanks are of excellent quality, never bulbing and highly shelf-blanching. Takrima is more upright and uniform than previous generations of Vitalis hybrid leeks. Vigorous, healthy plants with tremendous root systems make this variety especially well-suited for organic conditions.

Radish

Celesta F1
Celesta produces red, round, uniform bulbs of excellent quality. It has compact, strong, and upright foliage that allow for easy harvest. Celesta is broadly adaptable and recommended for field and high tunnel production.

Pearl
A white, smooth, round radish with a small green neck for open field production. Pearl has very vigorous growth, good resistance to cracking, and can be used as a processing radish in cello bags or in fresh bunches due to its strong tops. This variety shines when mixed with red round radishes.
Onion

Short Day
Francesca F1
Francesca is a mid to late short day yellow onion with tolerance to Pink Root Rot and strong tops. The exceptional bulb firmness makes this variety well-suited for mechanical harvest. Bulbs are approximately 3 in. (7.6 cm.), globe-shaped and uniform.

Gabriella F1
Gabriella is a high yielding short day variety that is good tasting and strong against bolting. Uniform bulbs have a mild to sweet flavor and an attractive globe shape. Yellow to brown in color, onions are large in size and will store for 2-4 months. Maturing mid-to-late season, this beauty will yield an excellent crop for fresh market and short term storage.

Madalyn F1
Madalyn is an early to mid short day yellow onion with excellent bolting tolerance for fresh market production. It produces globe shaped, bronze colored bulbs of 2.4-4.3 in. (60-110 mm.). Bulbs are single centered and tops are upright and vigorous. Madalyn is quick to mature and produces high yields of large bulbs.

Intermediate Day
Cabernet F1
Cabernet is a medium-to-large intermediate red onion for storage, fresh market or export. With a vigorous plant habit, Cabernet produces uniform globe shaped bulbs of outstanding holding ability and high quality. Excellent internal ring color development combined with single centers and partial resistance to foliar diseases make this variety a standard for organic onion production. Typical harvest is July through August, offering earliness, firmness and 4-6 month storability.

Monastrell F1
Monastrell is named after a variety of wine grape typically grown in France & Spain. It is the second organic red onion in our portfolio, after Cabernet. Like Cabernet, Monastrell is an intermediate day onion that boasts high quality, single-centered bulbs. Plants are upright and strong against disease. Monastrell has an impressively dark red color and a round to slightly flat shape. Bulbs are uniform and resistant to sunscald in the field. Interiors have excellent internal ring color development. This variety matures slightly later than Cabernet and is larger in size, averaging 3.5-4.0 in. (8.9-10.2 cm). Recommended for fresh market, bulbs will store 4-6 months.

Zoey F1
Zoey is the first intermediate yellow sweet onion in the Vitalis portfolio. It performs well under a variety of mid-intermediate growing locations throughout North America. The high quality bulbs have a nice round shape, strong centers, and good firmness. Plants are vigorous and have some tolerance to Pink Root. Organic growers will appreciate Zoey's adaptability, uniformity, and yield. Transplant or direct seed early in the season to maximize Zoey's size potential.
### Basil *Ocimum basilicum*

#### Dolly
Our largest-leaved Genovese type basil that is very uniform and fast growing. Dolly demonstrates better tolerance against low temperatures compared to other basil varieties. Recommended for open field production.

#### Eleonora
Eleonora has intermediate resistance to downy mildew. Field trials around the world show that Eleonora is consistently slower to get downy mildew than other varieties on the market. Medium green leaves are slightly narrower and less cupped than a traditional Genovese type.

*Resistances: IR: Pb.*

#### Elidia
Elidia is a Genovese type with intermediate resistance to Fusarium. Large, dark green, glossy leaves are borne on thick, sturdy stems. This variety is high yielding and very slow to bolt. Recommended for open field or pot production.

*Resistances: IR: Fob.*

#### Emily
A compact Genovese type basil with medium to large leaves. Emily is highly recommended for its improved shelf-life. Adapted to both field and greenhouse production and has an excellent leaf and plant size for pot production or fresh cut for bags, clam shells, or bunches.

#### Genoveser
Traditional cup-shaped, dark green, shiny leaved variety for field production. High yielding with strong, sweet basil aroma.

#### Keira
Keira has a significantly improved shelf-life and post-harvest tolerance to cold temperatures. Keira has medium sized, shiny leaves and short internodes. Ideal for pot production but also works in the open field, Keira delivers a more attractive end product after transport.

#### Rosie
Our improved Red Rubin basil with a consistent, intense dark red color and compact and upright growth on robust stems.
**Herbs**

**Chives Allium schoenoprasum**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nelly</strong></td>
<td>A fine-to-medium thick shafted chive variety. Nelly is dark blue green in color, vigorous, and upright growing. It is strongly resistant to diseases and thrip damage on the leaves. Used for all fresh and industrial markets.</td>
</tr>
<tr>
<td><strong>Staro</strong></td>
<td>An extra thick, dark green variety for a broad range of growing purposes, including forcing and pot production. Appropriate for fresh cut and industrial markets.</td>
</tr>
</tbody>
</table>

**Cilantro Coriandrum sativum**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marino</strong></td>
<td>Thickly feathered leaf cilantro with excellent plant emergence, late bolting and high yielding for open field or greenhouse production.</td>
</tr>
</tbody>
</table>

**Dill Anethum graveolens**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ella</strong></td>
<td>Ella is an attractive dark green dill variety bred for pot and babyleaf production. Its short hypotocyl gives it a sturdy upright and compact plant habit.</td>
</tr>
<tr>
<td><strong>Green Sleeves</strong></td>
<td>A stable dark green dill of the leafy type for production of fresh bunches. Green Sleeves is resistant to bolting and is suited for year-round growing in open field and greenhouse production.</td>
</tr>
<tr>
<td><strong>Tetradill, Sel. Goldkrone</strong></td>
<td>Especially high yielding and late flowering, tetraploid-type dill appropriate for open field production for fresh cut and processing.</td>
</tr>
</tbody>
</table>

**Oregano Oreganum vulgare**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Greek</strong></td>
<td>Short statured perennial with small green leaves for open field or greenhouse production. The main harvest occurs shortly after flowering, with one crop the first year and two cuts possible in the second year.</td>
</tr>
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</table>
Parsley, Flat Leaf Petroselinum crispum

<table>
<thead>
<tr>
<th>Variety</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Gigante d’Italia</td>
<td>A large flat leaved variety that is a dependable standard—very aromatic and high yielding.</td>
</tr>
<tr>
<td>Peione</td>
<td>Peione is a standout Italian large leaf variety with dark green leaves and uniform appearance. Vigorous plants are highly productive, with strong regrowth and intermediate resistance to downy mildew. Thick, sturdy stems and upright growth habit make for easy bunching. Peione’s leaves are larger and glossier than typical market standards. Resistances: IR: Pp.</td>
</tr>
</tbody>
</table>

Parsley, Curly Leaf Petroselinum crispum

<table>
<thead>
<tr>
<th>Variety</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moss Curled II</td>
<td>An improved Moss Curled type with very dependable, uniform, dark green, double curled leaves.</td>
</tr>
<tr>
<td>Wega</td>
<td>Wega is a double curl parsley variety that can be grown under many different conditions. It is proven in open field production, both for fresh cut or mechanical harvest, as well as for use in potted herb programs. This variety delivers high uniformity, dark color and upright, strong stems. The architecture of the plant makes for easy, clean bunching. Wega also offers excellent shelf life.</td>
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</tbody>
</table>

Sage Salvia officinalis

<table>
<thead>
<tr>
<th>Variety</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fanni</td>
<td>A quality sage selection with large leaves, excellent yield, and dependable germination. Fanni produces well in open field and greenhouse conditions.</td>
</tr>
</tbody>
</table>

Thyme Thymus vulgaris

<table>
<thead>
<tr>
<th>Variety</th>
<th>Description</th>
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<tbody>
<tr>
<td>German Winter</td>
<td>A bushy plant with broad leaves that can be used for field or greenhouse production for fresh or dried product.</td>
</tr>
<tr>
<td>Crop</td>
<td>Germination Standards Minimum (%)</td>
</tr>
<tr>
<td>-----------------</td>
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</tr>
<tr>
<td>Arugula</td>
<td>85</td>
</tr>
<tr>
<td>Basil</td>
<td>85</td>
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<tr>
<td>Cauliflower</td>
<td>90</td>
</tr>
<tr>
<td>Chives</td>
<td>85</td>
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<tr>
<td>Cilantro</td>
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<tr>
<td>Cucumber</td>
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<tr>
<td>Dill</td>
<td>80</td>
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<tr>
<td>Eggplant</td>
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<tr>
<td>Endive</td>
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<tr>
<td>Fennel</td>
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<td>Leek (OP)</td>
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<tr>
<td>Leek (F1)</td>
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<tr>
<td>Lettuce, Babyleaf</td>
<td>93</td>
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<tr>
<td>Melon</td>
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<tr>
<td>Onion</td>
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<td>Parsley</td>
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<tr>
<td>Radish</td>
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<td>Spinach</td>
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<tr>
<td>Summer Squash</td>
<td>92</td>
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<tr>
<td>Sweet Pepper</td>
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<td>Tomato</td>
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<tr>
<td>Winter Squash</td>
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</table>
Descriptions, recommendations and illustrations in this catalogue correspond as closely as possible to tests and practical experience. This information is provided to assist professional growers and users; however, variable local conditions must be taken into account. Under no circumstances shall Vitalis Organic Seeds, North America, accept liability based on such information for deviating results in the cultivated product. The Purchaser is responsible for determining whether the items are suitable for the intended cultivation type and location.

Important Resistance Information:

Resistances in varieties of our crops are coded, unless indicated otherwise. See explanation of our coding list at www.vitalisorganic.com. If a variety is resistant to more than one pathogen, the individual resistance codes will be separated by the symbol “/”.

- If in a resistance code of a certain variety reference is made to certain strains for which the resistance is claimed, this means that no resistance is claimed to other strains of the same pathogen.
- If in a resistance code no reference is made to specific strains of the pathogen for which the resistance is claimed, this means that resistance is claimed only generally to the pathogen, and not to specific strains of the pathogen.

Two examples:

**Tm:** A Tm:1-3 resistant sweet pepper variety is resistant to Tobamo (Bell Pepper Mosaic Virus, Pepper Mild Mottle Virus, Tobacco Mild Green Mosaic Virus, Tobacco Mosaic Virus, Tomato Mosaic Virus) race 0,1,2 and 3.

**TSWV:** A TSWV resistant variety has resistance to certain non-specified strains of Tomato Spotted Wilt Virus.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Type</th>
<th>Code</th>
<th>English Name</th>
<th>Scientific Name</th>
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<td>Fob</td>
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<td>Fusarium oxysporum f. sp. Basilicum Peronospora belbahri</td>
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<td>Pb</td>
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<td>Cucumber mosaic virus</td>
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<td></td>
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<td>CVVV</td>
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<td>CYSDV</td>
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<td>Papaya ringspot</td>
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<td>WMV</td>
<td>Watermelon mosaic</td>
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<td>Zucchini yellow mosaic virus</td>
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<td>Scab and gummossion</td>
<td>Cladosporium cucumerinum</td>
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<td>Anthracnose</td>
<td>Colletotrichum orbiculare</td>
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<td>Fusarium oxysporum f.sp.cucumerinum</td>
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<td>For</td>
<td>Fusarium crown and root rot</td>
<td>Fusarium oxysporum f.sp.radicis-cucumerinum</td>
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<td>Cca</td>
<td>Corynespora blight and target spot Powdery mildew</td>
<td>Corynespora cassiicola</td>
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<td>Podosphaeria xanthii (Sphaeroteca fuliginea)</td>
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<tr>
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<td>Lettuce mosaic virus</td>
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<td>Tomato bushy stunt virus (lettuce dieback complex)</td>
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<td>Lettuce necrotic stunt virus</td>
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<td>Macrosiphum euphorbiae</td>
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<td>Nasanovia ribisnigri</td>
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<td>Pemphigus bursarius</td>
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<td>MNSV</td>
<td>Melon necrotic spot virus</td>
<td><strong>Fusarium oxysporum f.sp.melonis</strong>  <strong>Podosphaeria xanthii</strong> (Sphaerotheca fuliginea)  <strong>Golovinomyces cichoracearum</strong> (ex Erysiphe cichoracearum)</td>
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<tr>
<td>Fungi</td>
<td>Fungi</td>
<td>Fom</td>
<td>Fusarium wilt</td>
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<td></td>
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<td>Px (es Sf)</td>
<td>Powdery mildew</td>
<td><strong>Podosphaeria xanthii</strong> (Sphaerotheca fuliginea)  <strong>Golovinomyces cichoracearum</strong> (ex Erysiphe cichoracearum)</td>
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<td><strong>Aphis gossypii</strong></td>
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<td>Fungi</td>
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<td>Downy mildew</td>
<td><strong>Plasmopara petroselini</strong></td>
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<td>Pepper</td>
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<td>ChiVMV</td>
<td>Chili veinal mosaic</td>
<td><strong>Xanthomonas campestris pv. vesicatoria</strong>  <strong>Ralstonia solanacearum</strong></td>
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<tr>
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<td>CMV</td>
<td>Cucumber mosaic virus</td>
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<td>PVY</td>
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<td>TEV</td>
<td>Tobacco etch virus</td>
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<td>TSWV</td>
<td>Tomato spotted mild virus</td>
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<td>Pc</td>
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<td><strong>Meliodogyne arenaria</strong>  <strong>Meliodogyne incognita</strong>  <strong>Meliodogyne javanica</strong></td>
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<td>Mj</td>
<td>Root-knot</td>
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<td>Fusarium crown and root rot</td>
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<td>ToMV</td>
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<td>Aai</td>
<td>Alternaria stem canker</td>
<td><strong>Alternaria alternata f.sp.lycopersici</strong>  <strong>Fulvia vulva</strong> (ex Cladosporium fulvum)  <strong>Fusarium oxysporum f.sp. lycopersici</strong>  <strong>Fusarium oxysporum f.sp. radicis-lycopersici</strong>  <strong>Leveillula taurica</strong> (anamorph: Oidiopsis sicula)  <strong>Oidium neolycopersici</strong> (ex Oidium lycopersici)  <strong>Pyrenochaeta lycopersici</strong>  <strong>Stemphylium solani</strong>  <strong>Verticillium albo-atrum</strong>  <strong>Verticillium dahlieae</strong></td>
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<td></td>
<td>Ff</td>
<td>Leaf mold</td>
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<td></td>
<td>Fol</td>
<td>Fusarium wilt</td>
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<tr>
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<td>For</td>
<td>Fusarium crown and root rot</td>
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<td>Lt</td>
<td>Powdery mildew</td>
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<td>Powdery mildew</td>
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<td>Pl</td>
<td>Corky root rot</td>
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<td>Ss</td>
<td>Gray leaf spot</td>
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<tr>
<td></td>
<td>Va</td>
<td>Verticillium wilt</td>
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<tr>
<td></td>
<td>Vd</td>
<td>Verticillium wilt</td>
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<tr>
<td>Nematode</td>
<td>Ma</td>
<td>Root-knot</td>
<td><strong>Meliodogyne arenaria</strong>  <strong>Meliodogyne incognita</strong>  <strong>Meliodogyne javanica</strong></td>
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<tr>
<td></td>
<td>Mi</td>
<td>Root-knot</td>
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<td></td>
<td>Mj</td>
<td>Root-knot</td>
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<tr>
<td>Abiotic</td>
<td>Si</td>
<td>Silvering</td>
<td></td>
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<td>Stress</td>
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Terms & Conditions of Sale:
The general Terms & Conditions of Enza Zaden USA, Inc. apply to all contracts entered into by Vitalis Organic Seeds. The general Terms & Conditions are available from each authorized Enza Zaden USA and Vitalis Organic Seeds distributor upon request and can be seen at www.vitalisorganic.com.
Vitalis Organic Seeds, North America

Our organic seeds are distributed through select distributors throughout North America. A list of our distributors can be found at www.vitalisorganic.com or by contacting our Customer Service Department toll-free at 1-855-800-ENZA (3692).

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Index
# Regional Sales Representatives

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<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Region</th>
<th>Contact Information</th>
</tr>
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<tr>
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<th>Contact Information</th>
</tr>
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